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DOES THE QUALITY OF THE THERAPEUTIC ALLIANCE PREDICT TREATMENT COMPLETION IN PSYCHOTHERAPY FOR POSTTRAUMATIC STRESS?

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DOES THE QUALITY OF THE THERAPEUTIC ALLIANCE PREDICT TREATMENT COMPLETION IN PSYCHOTHERAPY FOR POSTTRAUMATIC STRESS?

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To those who suffer and hope for healing.

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Abstract

The present research explores factors that predict treatment completion status for posttraumatic stress disorder (PTSD). The Counseling Alliance Subscale (CAS), a subscale of the Client Evaluation of Counseling Inventory ([CEC] Pace, 1997), was used to assess client ratings of the therapeutic alliance. Additional common predictors were assessed for correlation with the dependent variable, and those variables that met inclusion criteria were added to the model. A binary logistic regression was carried out to determine whether the prevailing model predicted treatment completion status membership (i.e., completers or non-completers). The current research provided evidence that higher client ratings of the therapeutic alliance were correlated with, but not predictive of treatment completion. Of the five included variables, post-secondary education completion was the only one found to be independently significant in predicting treatment completion status. In sum, this study provides implications for consideration of interpersonal factors in the psychotherapeutic treatment of PTSD.

Keywords: trauma, posttraumatic stress, treatment completion, therapeutic alliance

Does the Quality of the Therapeutic Alliance Predict Treatment Completion in Psychotherapy for Posttraumatic Stress?

Empirically supported manualized treatments using exposure-based interventions have been proven to be highly effective at treating posttraumatic stress disorder (PTSD) but suffer dropout rates as high as 78.2% in real-world settings (Goetter et al., 2015). Many have raised concerns regarding the extent to which dropout rates have been deemphasized in efficacy research (Bradley, Greene, Russ, Dutra, & Westen, 2005; Nijdam & Wittmann, 2015; Schottenbauer, Glass, Arnkoff, Tendick, & Gray, 2008; Frost, 2014). Moreover, the importance of the therapeutic alliance in working with people around the issue of trauma has been frequently emphasized (Eagle, 2000; Wampold et al., 2001; Owen & Hilsenroth, 2014).

The current research aims to determine the extent to which the quality of the therapeutic alliance predicts treatment completion for those individuals who have initiated psychotherapy for PTSD. Specifically, it is expected that treatment completion will be more likely to occur for those who have rated the therapeutic alliance more favorably. First, a review of research on the topics of trauma definitions, trauma impact, trauma treatments, dropout, and therapeutic alliance factors will be conducted. Second, the method—including participant selection, materials, setting, and procedures—will be proposed. Finally, the results will be discussed and, strengths, limitations, and implications of the study will be explored.

Review of Literature

Definitions of Trauma

Trauma may be defined as psychological distress following a catastrophic or adverse life event (American Psychiatric Association [APA], 2013). Dissociative experiences during and immediately after a potentially traumatic event were found to be the biggest predictors of

developing PTSD in a large meta-analysis of factors associated with posttraumatic symptom development (Ozer, 2003). The distinguishing feature between an adverse life event that causes momentary distress and a traumatic life event is the subjectively held experience of the observer. Vulnerability to trauma can occur after a single life event, or accrue over time (Gill, Page, Sharps, & Campbell, 2008; McCutcheon et al., 2009). A number of factors have been determined to be predictors of the extent to which an event or events are experienced as traumatic, as will be described below (see Meyer et al., 2012; Kangas & Bryant, 2005).

Trauma in the DSM-5. The Diagnostic and Statistical Manual of Mental Disorders, 5th Edition ([DSM-5] APA, 2013) is the manual used by mental health practitioners and researchers to classify various mental health diagnoses. The relevant category of diagnoses, trauma- and stressor-related disorders includes "disorders in which exposure to a traumatic or stressful event is listed explicitly as a diagnostic criterion" (p. 265). The DSM-5 recognizes that people may respond to traumatic experiences with symptoms classified by conditions such as dissociative disorders, obsessive-compulsive and related disorders, and anxiety disorders. The hallmark difference between a trauma- and stressor-related disorders and the aforementioned disorders is that trauma- and stressor-related disorders present with anhedonia, dysphoria, externalizing anger, aggressive symptoms, or dissociative symptoms. Diagnoses that fall into the category of trauma- and stressor-related disorders include reactive attachment disorder, disinhibited social engagement disorder, posttraumatic stress disorder, acute stress disorder, and adjustment disorders.

PTSD in the DSM-5. To meet the conditions for PTSD in the DSM-5, the assessing clinician must discern that the individual meets each of eight criteria. A candidate for diagnosis must have been exposed to death, threatened death, actual or threatened serious injury, or actual

or threatened sexual violence either by direct exposure, witnessing, learning that a close friend or relative was exposed to such an event, or exposure to aversive details of the trauma—as with first responders (Criterion A). The candidate must experience four types of symptoms, including intrusive symptoms, avoidance, negative alterations of cognition and mood, and alterations in arousal and reactivity (Criteria B, C, D, and E, respectively). The candidate's symptoms must last at least one month (Criterion F), cause distress or functional impairment (Criterion G), and must not be attributable to other causes (Criterion H).

Impact of Trauma

Traumatic experiences have been found to affect individual well-being in the areas of social functioning (Stain et al., 2014), cognitive functioning (Morey et al., 2009), physical health (Klest, Tamaian, & Mutschler, 2017), work performance/success (Sansone, Leung, & Wiederman, 2012), and suicidality (Gradus, King, Lalatzer-Levy, & Street, 2017), among others. Individuals affected with PTSD are about five to six times more likely to complete suicide than those from the general population (Gradus et al., 2017; Bachynski et al., 2012; Gradus, 2017). Traumatic experiences may either be obvious, as with war trauma (Layne et al., 2010), or insidious, as with race-based trauma (Bryant, 2007), intimate partner violence (Rigterink, 2014), and child abuse and neglect (Cassell, 2014). Given the various contexts under which trauma can occur, it may come as no surprise that a recent study found approximately 89% of the nearly 3,000 adult American participants reported traumatic experiences within their lifetime (Kilpatrick et al., 2013), while about 7.9% meet criteria for PTSD according to one meta-analysis (Ozer, Best, Lipsey, Weiss, 2003). Among those who are exposed to a traumatic event, about 10–20% will experience impairment (Norris & Sloane, 2007).

While adult men report higher rates of trauma on average, adult women are more commonly diagnosed with PTSD (Breslau, 2009). The disparity has been attributed to differences in the type of trauma to which men and women tend to be exposed (Martin et al., 2013), their different means of coping (Keshet, Foa, Gilboa-Schechtman, 2018), and treatment provider bias in diagnosing (Becker, Lamb, & Delworth, 1994). Women, for example, report higher rates of interpersonal violence, sometimes referred to as betrayal trauma. Betrayal trauma has been shown to be a significant predictor of the extent to which an adverse experience has an ongoing traumatic impact on a victim. An individual who has been victimized by a family member, close associate, or loved one is more likely to experience greater levels of dissociative symptoms, anxiety, depression, and trauma diagnosis than those who have not experienced betrayal trauma. In other studies of women, PTSD due to sexual assault has been linked to poor self-concept (Keshet, Foa, Gilboa-Schechtman, 2018), and identity violations (Kira et al., 2018). Such symptoms have been linked to issues including job loss, general distress, anxiety, depression, anger, psychosis, and substance abuse, as well as low levels of life satisfaction and general happiness.

In a study of 6,483 parent-adolescent pairs, 62% of the adolescents were reported to have experienced a potentially traumatic event (McLaughlin, Koenen, Hill, Petukhova, Sampson, Zaslavsky, & Kessler, 2013). Notably, the most commonly reported types of exposure were betrayal traumas, especially for those not residing with a biological parent. The most common symptoms of trauma in adolescents include chronic anxiety, depression, posttraumatic stress, substance abuse, delinquency, physical health disease, health-risk behavior, and suicidality (Darnell, Flaster, Hendericks, Kerbrat, & Comtois, 2018). Adolescent externalizing behaviors

have been identified as leading to a greater threat of exposure to future traumatic events, including child abuse.

Crosse, Vance, Kim, Ruchard, and Fox (2018) found that mothers with a history of posttraumatic stress were at a higher risk of parental distress and low parental satisfaction. Both outcomes were associated with higher rates of perpetrating child abuse on their preteen children. Other ways in which trauma is believed to affect parenting practices include parental anger, impulsive reactivity, and emotional regulation problems (Delilo, Tremblay, & Peterson, 2000). Taken together, these symptoms suggest that childhood trauma may lead to a higher likelihood of future intergenerational trauma.

Several studies have shown that children and adults who have experienced a single trauma are disproportionately more likely to experience additional types of traumas in the future (Martin, DeMarni, DePrince, & Freyd, 2013; Darnell, Flaster, Hendricks, Kerbrat, & Comtois, 2018). For example, in a study of 273 college students, 63% of participants who endorsed exposure to at least one type of trauma reported having experienced multiple types of traumas (Martin et al., 2013). This phenomenon, referred to as cumulative trauma, is associated with greater levels of depression, anxiety, sleep issues, co-occurring disorders, somatic complaints, and aggressive behaviors.

Several explanations for the frequency of cumulative trauma exist. First, certain environments predispose individuals to recurring single-type trauma, called complex trauma, such as a child living with abusive or neglectful parents (Darnell et al., 2018) and an individual living with a violent intimate partner (Cohen, Field, Campbell, & Hien, 2013). In such environments, multiple types of control and abuse are common. Second, complex trauma in childhood is presupposed to acculturate children into unhealthy relational patterns that

potentially predispose them to be in unsafe situations in adulthood (Martin et al., 2013). Third, people of marginalized identities tend to experience recurring trauma through violence and microaggressions based on their salient identities (Kira, 2010).

Many health-related effects of posttraumatic stress have been identified. For example, in a meta-analysis of primarily male veterans, Pole (2007) found that those with PTSD experience larger startle responses and higher levels of arousal at rest as measured by skin conductance, blood pressure, heart rate, and muscle tension. Beck and Clapp (2011) identified a significant relationship between a PTSD diagnosis and subjective reports of chronic pain in a study of adult men and women. In a separate study of women who have experienced intimate partner violence, PTSD was associated with higher than normative levels of muscle pain, digestive issues, sleep issues, and sexual inhibition and dysfunction (Woods, Hall, Campbell, & Angott, 2008). Other health-related issues found to be connected to posttraumatic stress include migraines and ulcers (Goodwin, Hoven, Murison, & Hotopf, 2003), respiratory complaints and respiratory disease (Farley & Patsalides, 2001), higher rates of thyroid disease in sexually assaulted men and arthritis and breast cancer in sexually assaulted women (Stein, & Barrett-Connor, 2000), and cardiac disease in men and women (Boscarino & Chang, 1997).

Higher levels of health complaints inevitably lead to greater healthcare utilization. For example, an investigation of PTSD-associated health care costs for returning U.S. military personnel estimated an annual expenditure of $200 million (Harrison, Satterwhite, Rudday, 2010). In another study of nearly 2,600 adults, rates of physical health diagnosis increased 18% over the 3 years following the 9/11 attacks, even after controlling for covariates. The increase in healthcare utilization in that study was attributed both to disproportionate growth in stress-related

health issues as well as increased inclination toward health concern and subsequent healthcare utilization (Holman & Silver, 2011).

Evidence-Based Treatments (EBTs) of Trauma

Research on the common factors of psychotherapy puts forth the notion that what is effective within a particular treatment is also effective across treatments for a given presenting problem (Duncan, Miller, Wampold, & Hubble, 2010). Thus, researchers who investigate common factors of successful therapy aim to identify the components among therapies that produce effective treatment. In this way, the jargon is removed from treatments, leaving the active ingredients of effective therapy. For PTSD, treatments that involve disclosure of the traumatic event appear to be most effective (see Wampold, 2001; Borkovec, 1990; Mohr et al., 2009; Parloff, 1986; Borkovek & Sibrava, 2005).

What a disclosure entails, how it is treated, and with what frequency it is addressed varies by modality (Watkins, Sprang, & Rothbaum, 2018; Bradley et al., 2005). Humanistic modalities, for example, tend to explore many facets of the trauma, including their historical contexts, associations, and meanings, as well as a narrative account of the trauma or traumas. Story specifics, story format, and the number of times the story is told aren't necessarily emphasized. Conversely, EBTs such as cognitive and behavioral therapies focus on symptom management and desensitization to the trauma and its triggers through repeated exposure to the trauma narrative(s). Among the most prescribed treatments are CBT variants, EMDR, psychodynamic therapies, (Bradley et al., 2005), and culturally sensitive treatments (Sperry, 2010).

Cognitive Behavioral Therapies (CBT). There are two primary modes of treatment in CBT for PTSD (Bradley et al. 2005). First, CBT focuses on developing skills for anxiety management and cognitive restructuring. Second, it focuses on repetitious exposure to in vivo or

imaginal event(s) and their triggers. Cognitive restructuring and exposure can be used together, as with a more traditional cognitive behavior therapy, or as separate emphases, as with the two most common and empirically supported modalities, cognitive processing therapy (CPT) and prolonged exposure therapy (PE).

Cognitive Processing Therapy is a 12-session manualized treatment developed for use with individuals diagnosed with posttraumatic stress (Resick, 2001). The series of sessions provide the client with psychoeducation about posttraumatic stress, imbue meaning into the trauma narrative, work through problematic cognitions, and normalize trauma-related emotionality. Frequent emotional processing and cognitive alteration of the written trauma narrative are believed to explain a significant portion of the efficacy of the CPT model (Resick, 2008).

Like CPT, PE is a 10–12 session manualized therapy for use with posttraumatic stress. PE therapy exposes the client to in vivo and imaginal exposure to traumatic memories and triggers within and between sessions (Foa, Hembree, & Rothbaum, 2007). Authors of the theory suggest that posttraumatic stress symptoms lose their intensity when memories and triggers are processed repetitively, with full affective range, while utilizing self-soothing techniques. Thus, prolonged exposure therapy begins with development of coping mechanisms, primarily through breathing retraining. According to PE, one of the reasons adverse experiences become traumatic is due to avoidance behaviors of the experiencing subject. During PE therapy, cognitive restructuring is undertaken to assist the client in differentiating between the historical experience of the event(s) and the present-day experiencing of memories and triggers related to the event(s).

While CPT and PE have the most empirical support for those who complete posttraumatic stress treatment, both therapies suffer from substantial dropout and nonresponse

rates (Schottenbauer et al., 2008). PE, in particular, has been cited as being less commonly utilized due to dropout rates and due to the personal discomfort that treatment providers experience in employing the method. Some have attributed relatively high dropout rates from PE and CPT to therapists' strict adherence to manuals (as opposed to the treatment strategies), although the causes remain unclear (Bein et al., 2000; Henry et al., 1993).

Eye Movement Desensitization Reprocessing Therapy (EMDR). Participants in EMDR are asked to recall various aspects of the traumatic event(s) while attending to bilateral eye movements (Davidson & Parker, 2001). Bilateral eye movements, and in some cases tapping, are believed to help the client access and disrupt trauma associations. Disclosure in EMDR differs from PE in that exposures to traumatic event(s) tend to be briefer and focus more on association to the event than on developing the full narrative (Sikes & Sikes, 2003).

Although EMDR is among those therapies with a substantial base of empirical support through research (Bomyea & Lang, 2012), a myriad of circumstances— including cost (Bradley et al., 2005), methodological concerns, and access to training (Bomyea & Lang, 2012)—make EMDR much less popular among clinicians. EMDR requires credentialed training which is more costly than other mainstream treatments (Bradley et al., 2005). In addition, the training requires a significant time investment, is limited in availability, and often requires travel, making it less accessible to many clinicians (Bomyea & Lang, 2012). Finally, several methodological concerns have been brought to light since the use of EMDR peaked in the 1990s. For instance, Rubin (2003) identified several studies indicating that EMDR is only effective when used with single-event-related PTSD and that it should not be used with children, combat-veterans, or with individuals who are struggling with complex trauma or cumulative traumas. Also, the use of bilateral eye-movements as a treatment method has been questioned. Numerous studies

deconstructing individual components of EMDR (e.g., prolonged exposure to the traumatic event with and without the use of bilateral eye-movement protocols) have been conflicting, with results almost systematically falling along the lines of individual experimenter bias.

Psychodynamic Therapies. Many iterations of psychodynamic theories have developed since Freud led the charge in the late 1800s (Safran, 2012). Yet, a basic tenet that has been retained by each of its succeeding theories is that pathological symptoms develop when emotion is split from an adverse event at the time the event occurs. What follows in therapy is the process of making connections between the ways in which one has learned to compensate presently for those adverse historical events. Two versions of psychodynamic therapy will be discussed below. First, time-limited psychodynamic psychotherapy (TLDP) will be discussed due to a solid research base that supports its use with PTSD. Second, intersubjective systems theory (IST) will be discussed due to its assertion that most problems in living are associated with some form of trauma in neurotypical people.

Time-limited psychodynamic psychotherapy is a relationally oriented psychodynamic psychotherapy that, unlike most other psychodynamic psychotherapies, is time-limited, structured, and isolates one or few problems and goals on which to focus treatment (Levenson, 1995). Under typical circumstances, TLDP is limited to 12 sessions and follows a progressive format (Weiss & Marmar, 1993). Over the course of the treatment, trauma-affected participants develop a narrative account of the traumatic event(s) in the context of their life experiences, identify and expand upon disaffected meanings attributed to the event, consider present-day effects of the traumatic event(s), and plan for termination and posttreatment success starting with the initial session.

Among the less prescribed—yet apparently at least as effective—treatments for trauma are contemporary psychodynamic therapies (Luyten, Mayes, Fonagy, Target, & Blatt, 2016; Shedler, 2010). IST is a contemporary psychodynamic theory that focuses on treating trauma within the context of developing a "relational home" (Stolorow, 2013; Stolorow, 1984). Within this modality, a trauma event is conceptualized as becoming pathogenic at the point when cognitive and emotional precipitants of the event have become dissociated from one's own consciousness. This occurs when an un-attuned support system fails to identify and acknowledge the pain that an experience has caused the individual. The therapeutic action in IST then is to "illuminate those principles that unconsciously organize individual worlds of experience and … dictate what emotional experiences must be prevented from coming into full being—that is, those that must be dynamically repressed—because they are prohibited or too dangerous" (Stolorow, 2013, p. 284). Hence, for therapy to be effective, according to this paradigm, traumatic events must not only be disclosed, but the disclosure must be situated in a safe and confiding relationship.

Culturally Sensitive Treatments. Culturally sensitive treatments (CST) are commonly referred to as "bottom-up" approaches to treatment planning, whereby cultural, historical, social, and familial factors are assessed and operationalized in the development of adapted treatments (Sperry, 2010). It appears that disclosure has been determined to be a relevant form of treatment in culturally sensitive treatments with several populations. For example, Gone (2009) reported that an Indigenous group of therapists treating an Indigenous clientele find disclosure clinically useful and culturally relevant. Specifically, trauma-induced pain is "confessed" and "purged" through cathartic expression, leading to introspection and self-improvement.

Treatment Dropout

Premature dropout is variably defined across psychotherapy dropout research. The three most common definitions of dropout are as follows: first, dropout may be defined as a patient's failure to attend a scheduled appointment (Wierzbicki & Pekarik, 1993). It has been argued that this is far too conservative a method, as anyone who fails to schedule an appointment would be considered as a treatment completer. Indeed, studies that use this method record lower dropouts than studies using alternate means of measurement. Second, dropout may be defined at the discretion of the psychotherapist. At issue with this method is that discretion is a subjective rating and reliability tends to suffer because completion criteria vary between clinicians. Third, dropout may be defined as completion of a predefined number of sessions. This is a preferred method for many studies due to its objective and reliable nature and because of the support it receives from outcomes studies. Specifically, though 12 is the number of sessions most commonly prescribed by EBPs, individuals who complete seven sessions of therapy for PTSD meet good end-state criteria (Mott et al., 2014; Galvonowski, Blain, Mott, Elwood, & Houle, 2012; Tuerk et al., 2012).

Premature dropout is not an uncommon phenomenon in psychotherapy. Nearly half (46.86%) of all individuals presenting to therapy in real-world settings can be expected to drop out before treatment is completed (Wierzbicki & Pekarik, 1993). Unfortunately, that number pales in comparison to the number of individuals (up to 78.2%) who drop out of treatment for PTSD (Goetter et al., 2015). The average number of sessions completed by CPT- and PE-attending patients are three sessions and two sessions, respectively, compared to an average of seven sessions for those attending a non-EBP therapy (Mott et al., 2014). Still, it is widely believed that exposure-aspects of EBP therapies are not responsible for high dropout rates (Goetter et al., 2012; Imel, Laska, Jakupcak, & Simpson, 2013).

Patient Demographics and Treatment Dropout. Several factors are known to contribute to higher dropout rates in psychotherapy. Demographics including younger age at the time of the trauma(s) (Norris, 1992), African American race and low socioeconomic status (SES) predict higher dropout rates in psychotherapy (Wamser-Nanney & Steinzor, 2016). Additionally, Asian immigrants tend to be more likely to complete treatment when matched with a same-language speaking therapist (Presley & Day, 2019). In general, however, ethnic matching of the patient-therapist dyad is believed to be a weak predictor of treatment completion (Myer & Zane, 2013). However, the therapist's cognitive flexibility pertaining to the client's cultural experiences appears to be a better predictor of retention and completion (Trusty, 1996).

Education and socioeconomic status have been commonly found to have an overlapping influence on treatment outcomes (Darin-Mattsson, Fors, & Kåreholt, 2017). Amount of education typically has a direct positive relationship with SES. For that reason it is believed that education and SES have a multicollinear effect on dropout rates when a treatment seeker has insufficient means to attend treatment (Haan, Boon, Vermeiren, & Jong, 2015; López, Shealy, & Rheingold, 2014)

Social Factors and Treatment Dropout. Some social factors are believed to affect dropout rates in treatment for PTSD. Veterans returning from more recent conflicts are more likely to drop out of PTSD treatment than previous generations, such as Vietnam veterans (Goetter et al., 2015). The authors of the aforementioned study suggest that higher dropout rates in younger generations are likely due to more recent exposure to a military culture that promotes help avoidance. Likewise, impaired social functioning (Zayfert et al., 2005) and social introversion have been found to predict higher rates of dropout than social extroversion (Garcia,

Kelley, Rentz, & Lee, 2011), while higher levels of perceived social support have been shown to mitigate dropout rates (Gros, Price, Yuen, & Acierno, 2013).

Comorbidity and Treatment Dropout. Many studies attempting to identify predictors of dropout in the treatment of PTSD have elicited non-significant results or conflicted with other research. For example, PTSD symptom severity, symptom chronicity, concurrent use of medication, comorbid depression, severity of guilt, and exposure to multiple traumas were not found to predict treatment dropout in one study (Taylor, 2003). While Marks, Lovell, Noshivrani, Livanou, and Thrasher (1998) did find PTSD symptom severity to be predictive, they did not find demographic variables, event type, depressive symptoms, or alcohol abuse to be foretelling of dropout. Zandberg, Rosenfield, Alpert, McLean, and Foa (2016), however, did find alcohol abuse to be predictive of dropout.

Perceived Social Support and Treatment Completion Status. Perceived social support appears to have mixed effects on treatment completion status depending upon the type problems being addressed. In the treatment of substance abuse disorders, positive reports of perceived social support is correlated with treatment dropout (Westreich et al., 1997). In these cases it is believed that social support acts a means of enabling the individual to continue to carry out addictive behaviors. Conversely, those with negative reports of perceived social support are more likely to complete treatment.

For the treatment of PTSD, social support has been shown to have an inverse effect on treatment dropout. Positive reports of perceived social support have been found to lead to more positive treatment outcomes including treatment completion (Gros et al., 2013; Garcia et al., 2011). Individuals with poor social support were, likewise, found to experience a greater

likelihood of treatment dropout, especially when reports of social support deteriorated over the course of treatment.

Type of Trauma Exposure. As mentioned previously, to be diagnosed with PTSD, an individual must have experienced direct exposure, or one of three different avenues of indirect exposure to a traumatic event (i.e., witnessing, learning that a close friend or relative was exposed to such an event, or exposure to aversive details of the trauma). Research on this diagnostic aspect of PTSD is sparse. A thorough review of literature returned no results on a search for the impact of direct versus indirect trauma exposure on treatment completion and dropout rates. However, some research has looked for differences in symptoms between direct and indirect exposure to traumatic events.

According to one study, children with indirect exposure to community violence may be less likely to develop aggressive attitudes and behaviors later in life than those directly exposed to child abuse (Molano, Harker, & Cristancho, 2018). Additionally, children directly exposed to childhood abuse are more likely to develop PTSD by adulthood than children indirectly exposed to violence through intimate partner violence between parents and caregivers (Kulkarni, Graham-Bermann, Rauch, & Seng, 2011). In sum, indirect exposure to violence appears to lead to less severe outcomes for affected individuals than direct exposure to violence.

Therapeutic Alliance

The extent to which the therapeutic alliance is emphasized across treatment modalities varies. Cognitive behavioral therapies (Resick, 2001; Sikes & Sikes, 2003; Jaycox, Zoellner, & Foa, 2002), EMDR (Bomyea & Lang, 2011), psychodynamic theories (Carr, 2011), and CST (Sperry, 2010), seem to agree, however, that the therapeutic alliance bears some degree of importance in the successful treatment of trauma-related conditions. Surprisingly, it seems no

study has looked at the extent to which therapeutic alliance predicts dropout and completion in psychotherapeutic treatment of PTSD.

The concept of therapeutic alliance was first posed by Freud (see Freud, 1912/1958), and was later made a mainstream priority in therapy by Carl Rogers (see Rogers & Wood, 1974). Multiple definitions of therapeutic alliance exist among clinicians, theoreticians, and researchers (Calllaghan, Naugle, & Follette, 1996). In its most basic form, therapeutic alliance may be characterized by an emotional bond between the psychotherapist and client, with the course and goals of treatment being discussed and mutually determined (Zilcha-Mano & Errázuriz, 2015).

One large meta-analysis showed that therapeutic alliance explains, on average, about 7.5% of the success in treatment outcomes (Horvath, Del Re, Flückiger, & Symonds, 2011). Higher patient ratings of the alliance are generally correlated with greater improvement toward treatment goals. Strong (1968), an early theoretician of therapeutic alliance, proposed that a healthy therapeutic alliance facilitates the development of the client's sense of trust and safety toward the therapist. Those factors were believed to then afford the therapist the opportunity to productively lead the activity of the sessions.

Patient reports of the therapeutic alliance are reliable predictors of client retention and treatment outcomes (Crits-Cristoph et al., 2001), independent of the clinical approach utilized (Ardito & Rebellino, 2011). Therapist reports on the quality of the therapeutic alliance, however, often differ from their respective clients and are much less predictive of treatment outcomes. Among patient reports of the therapeutic alliance, certain time sequences tend to be more reliable than others (Crits-Cristoph et al., 2001). Patient aggregate reports of the therapeutic alliance over several sessions, for example, tend to be more reliable predictors than single-session measures. Further, early treatment data tends to be a more reliable predictor of treatment engagement and

retention (Meier, Barrowclough, & Donmall, 2005), as well as outcomes, than mid- and late-treatment reports (Crits-Cristoph et al., 2001). In the latter study, data related to sessions three to nine predicted almost 15% of the outcome variance. Observations such as those from Crits-Cristoph and colleagues (2001) have led to more complex theorizing and advanced analyses of the relationship between patient reports of the therapeutic alliance and treatment outcomes.

One perennial point of contention in this line of research is whether patient reports of the therapeutic relationship follow a linear pattern over the course of treatment. Conflicting support has been proposed for the therapeutic alliance tending to improve in a linear fashion over time (Kivlighan & Shaughnessy, 2000), decline over time after a brief early improvement (Hartley & Strupp, 1983), and follow a curvilinear progression over the duration of treatment (Horvath & Marx, 1990) in treatments with successful outcomes. To date, no study has provided sufficient evidence that establishes a typical course of patient reports of the therapeutic alliance in treatments with successful outcomes (Ardito & Rebellino, 2011).

Earlier, Luborsky (1976) suggested that patient needs from the therapist evolve over time. According to Luborsky, patients were presumed to have a greater need for support in the beginning while a greater need for collaboration developed in later stages of therapy. Elsewhere, it has been proposed that patient ratings of the therapeutic alliance follow a non-linear pattern due to the inevitability of rupture and repair in an ongoing therapy (Safran & Muran, 2000). Successful therapies in such literature are characterized by numerous highs and lows related to ruptures and repairs in the therapeutic alliance over the course of treatment.

Some have questioned whether therapeutic alliance is, in fact, an active ingredient in treatment outcomes, or if it merely facilitates the employment of other active ingredients by keeping patients in therapy and involved (Zilcha-Mano, 2017). It has been proposed that

common alliance measures are actually detecting two separate constructs related to alliance. The first is a trait-like feature in which patients are already predisposed to developing secure attachments. The second is a state-like feature in which the development of a healthy alliance is attributable to the intersubjective field of the therapy. Both features of the therapeutic alliance appear to have a significant impact on treatment outcomes. Although, state-like features of the therapeutic alliance better predict patient retention for patients with lower trait-like features of therapeutic alliance.

In summary, highly positive patient reports of the therapeutic alliance predict successful treatment outcomes in psychotherapy. Additionally, unfavorable patient reports of the therapeutic alliance are believed to predict psychotherapy dropout—an issue particularly salient to trauma-focused exposure treatments for PTSD. The current study seeks to investigate the extent to which positive patient reports of the therapeutic alliance predict treatment completion for those who initiated psychotherapeutic treatment of PTSD.

Rationale and Purpose for the Study

Psychotherapeutic treatment of PTSD suffers from higher than average dropout rates. The purpose of this study is determine what factors contribute to treatment completion status (treatment completion versus treatment non-completion/dropout) among those who participate in psychotherapeutic treatment of PTSD. Patient reports of the therapeutic alliance were suspected to be significant in predicting treatment completion status due to the role the therapeutic alliance is believed to serve in containing the high intensity of emotionality that is inherently elicited in EBTs for PTSD. Additional predictors of treatment completion status will be investigated for significance to identify a cohesive model that will help clinicians better tend to higher than typical dropout rates associated with the psychotherapeutic treatment of PTSD.

Method

Participants

Participants included 92 American English-speaking adults who had discontinued psychotherapy for PTSD in the United States within the previous 6 months. Because past research suggests that native language interacts with therapeutic alliance, only native English speaking adults between the ages of 18 and 65 years of age were admitted to the study. Participants also attested that they had attended psychotherapy for treatment related to PTSD diagnosis within the past six months.

Measures

Counselor Alliance Subscale. The CEC (Pace, 1997) is a 25-item multi-dimensional instrument that was created to evaluate student counselor efficacy (Frey, Beesely, & Liang, 2005). Three aptly named factors are assessed in the CEC, including Quality of Life Roles subscale, Counseling Alliance subscale (CAS), and the Perceived Change subscale. The CAS, an 8-item subscale, is the only subscale of interest for the current study, as it assesses therapeutic alliance factors. Items are rated on a Likert scale from one to seven, with one representing the most positive rating of the therapeutic alliance. Examples of questions on the CAS include: "How caring do you feel your counselor is toward you?" and "How easy is it to talk to your counselor?" and "How motivated or committed do you feel your counselor is in helping you?" The CAS was shown to have a high correlation with the WAI-12 (Tracey & Kokotovic, 1989), an independent measure of therapeutic alliance, and had a significant test-retest reliability with a Pearson coefficient of .51 and a Cronbach's alpha of .88 (95% CI = .85 to .90).

PTSD Checklist—Civilian Version. The PTSD Checklist-Civilian Version (PCL-C; Weathers, Litz, Herman, & Keane, 1993) is a 17-item self-report measure used to facilitate

diagnosis of PTSD. Using a 5-point Likert scale, participants are asked to endorse the extent to which they have been troubled by each of the relevant criteria over the past month (e.g., "Trouble remembering important parts of a stressful experience from the past?"). Responses range from "Not at all" to "Extremely" bothersome. The cumulative score is then used to determine level of burden to the individual. The internal reliability of the PCL-C is high (.95), and the item-total correlations range from r .61 to r .78.

Multidimensional Scale of Perceived Social Support. The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) is a 12-item self-report instrument used to address social support adequacy. The MSPSS uses a 7-point Likert scale to assess the level of existence of several sub-constructs related to social support experiences (e.g., social popularity, respect). Responses range from "I strongly disagree" to "I strongly agree." The internal reliability for the instrument is good with a Cronbach's alpha of .88, and the test-retest reliability is adequate at .88.

Trauma Therapy and Trauma Exposure Information Questionnaire. Additionally, participants were asked questions related to their trauma. For example, they were asked to confirm the number of sessions completed, number of traumas, type(s) of trauma that led to the PTSD diagnosis (e.g., intimate partner violence, war trauma, natural disaster), number of sessions attend, whether the participant felt therapy had been successfully completed, and the manner in which they were exposed to the trauma(s) (e.g., direct exposure, exposure to a close friend or relative).

The DSM-5 recognizes four different types of exposure to traumatic events under PTSD as a diagnosis. With the underlying assumption that therapeutic alliance is an interpersonal construct, data regarding direct versus indirect exposure to the traumatic was of interest in this

study. To that end, 72.5% of participants endorsed directly experiencing the traumatic event, whereas a combined 26.5% endorsed exposure to the traumatic event by: witnessing a traumatic event as it occurred to another (18.8%), learning that a traumatic event occurred to a close family member or close friend (3.8%), or experienced repeated extreme exposure to aversive details of a traumatic event (5.0%).

Demographic Questionnaire. Finally, participants were asked to provide demographic information including their age, race, socioeconomic status, and gender. Multiple categories were listed for gender, and a space was provided for participants to self-describe their gender. However, only binary-gendered individuals self-selected to participate in this study. Among the 83 participants 41.3% of them self-identified as a man (n = 33) and 58.2% as a woman (n = 47). A majority of participants identified as White or European American (72.5%). The remainder identified as Native American, or Alaska Native (2.5%), Pacific Islander (1.3%) Hispanic or Latino/a/x (7.5%), Asian American (8.8%), Black or African American (7.5%) and Biracial or Multiracial (2.5%). The participants ranged in age from 22 to 60 years old, and the mean age was 37.

Due to past research identifying cost as a barrier to treatment completion, demographics related to household income were also collected (Ozhathil et al., 2011). A majority (61.3%) of the participants reported household income between $25,000 and 74,999. The remaining individuals reported income between $0 and $24,999 (8.8%), and over $75,000 (29.1%).

Procedures

Participants were recruited using Amazon Mechanical Turk (MTurk). MTurk is an online work recruitment platform that provides a diverse sample of participants across predefined geographical regions (Gleibs, 2017). MTurk exposes prospective participants, or “workers”, to a

number of tasks that require human intelligence to complete. The type of tasks available to workers are varied, but social science research is an increasingly common use of the platform (Gleibs, 2017; Paolacii, Chandler, & Ipeirotis, 2010). Wages for each task are determined and prepaid by the "requester" (i.e., researcher), and processed by MTurk upon completion of the task. Participants in this study were compensated $5 for their time.

Benefits and drawbacks of using MTurk as a recruitment platform have been identified in past research (Paolacii et al., 2010). In regards to the benefits of MTurk to this study, participants remained anonymous to researchers, which helped ensure privacy of the participants. Additionally, participation was limited to those within the U.S., but participants were ostensibly inclusive of diverse geographic regions. Moreover, participants recruited through MTurk tend to be representative ethnically and racially of the selected geographic region, which is often a limitation in social science research. A potential drawback of all Internet-based research is that participants have been shown to be less attentive to required tasks which has been shown on occasion to have some degree of effect on outcomes (Oppenheimer, Meyvis, & Dadenko, 2009). This issue, however, is partially offset in that online participants have also shown to be less susceptible to experimenter effects than their counterparts involved in research set in laboratories (Paolacci et al., 2010)

Recruitment materials were provided to prospective participants on the MTurk website. Those who met the inclusion criteria were directed to complete the survey materials at Qualtrics.com. Participants were provided informed consent upon beginning the Qualtrics survey and were subsequently directed to complete the survey. They were advised that they were permitted to discontinue the survey at any time without penalty. Upon discontinuation of the survey, participants were provided a randomly generated completion code, which they were

instructed to enter into the MTurk recruitment webpage as verification of participation. Participants were then automatically compensated for their time. The survey was estimated to take 20 minutes to complete. Data was collected between March 12th, and July 12th, 2020.

Results

A binomial logistic regression was used to determine the extent to which reports of therapeutic alliance predict treatment completion status. Completers were defined as those who completed seven sessions of treatment for PTSD (Mott et al., 2014; Galvonowski, Blain, Mott, Elwood, & Houle, 2012; Tuerk et al., 2012). Dropouts were defined as those who did not meet completion criteria. Ninety-two responses were collected in total. Of those responses, nine were removed from the study, pre-analysis, for the following reasons: seven were found to be redundant responses (i.e., a participant took the survey more than once); and, two were removed due to performance and consistency issues. Therefore, 83 responses were included in the analysis.

Preliminary Results

Prior to carrying out the logistic regression, a series of preliminary tests were run. First, given the expansive number of possible predictors, each one was tested for correlation with the dependent variable to determine significance. Of the 22 possible predictor variables informed by research, only six were identified as significantly correlated with the dependent variable. The significant predictor variables were therapeutic alliance $1(83) = -.22$, $p = .042$, perceived social support $1(83) = .272$, $p = .013$, Black racial identity $1(83) = .31$, $p = .043$, post-secondary education completion status $1(83) = .329$, $p = .002$, type of trauma exposure $1(83) = -.240$, $p = .029$, and age $1(83) = .234$, $p = .036$. For parsimony, the predictor variable, type of trauma exposure, was collapsed into two categories (direct exposure and indirect exposure) in lieu of

using the four categories listed in the DSM-5 Criterion A (APA, 2013). Also, though the number of participants identifying as Black or African American was low (N=6), Black or African racial identity was left in the model as a predictor variable due to prior research supporting the significance of the construct. Second, the three continuous predictors were assessed for a linear relationship to the logit of the dependent variable using the Box-Tidwell procedure. Age was found to be in violation of this assumption and was consequently removed as a predictor. Third, the five remaining predictor variables were assessed for multicollinearity, none of which were found to be in violation of this assumption. Fourth, an exploratory analysis was conducted to determine whether the dependent variable was correlated with other definitions of treatment completion. Indeed, the dependent variable was correlated, both, with lower post-treatment PTSD scores on the PCL-C $1(83) = -.401$, $p = .000$, and with participant reports of successful treatment completion $1(83) = -.34$, $p = .003$. There were two standardized residuals with values of -3.82 and -3.45 which were kept in the analysis as they did not appear to unduly influence the model (Zhang, 2016).

Table 1

Correlations

		Type of Exposure to Trauma	Counseling Alliance Subscale	Perceived Social Support Scale	Racial Identity	Education
Treatment Completion Status	Pearson Correlation	-.218*	-.256*	.274*	.246*	.275*
	Sig. (2-tailed)	.049	.020	.013	.026	.012
	N	82	82	82	82	82

Primary Results

A binary logistic regression was performed to assess the impact of the five predictor variables (therapeutic alliance, perceived social support, Black racial identity, post-secondary education completion status, and type of trauma exposure) on the likelihood that respondents would drop out of psychotherapy for PTSD. After an initial run of data, and removing three cases which violated assumption of outliers, the full model containing all predictors was statistically significant, χ^2 (5, N = 80) = 18.62, p = .002 (see Table 2), indicating that model was able to distinguish between respondents who reported treatment completion and those who reported dropout. The model as a whole explained between 20.8 % (Cox and Snell R squared) and 31.7 % (Nagelkerke R squared) of the variance in treatment status (see Table 3), and correctly classified 82.5 % of the cases (see Table 4). As shown in Table 5, only one of the five predictor variables made a unique statistically significant contribution to the model (post-secondary treatment completion/education), which recorded an odds ratio of 3.98. This indicated that participants who had not completed post-secondary education were nearly four times more likely to report having dropped out of therapy, controlling for all other factors in the model.

Table 2 **Omnibus Tests of Model Coefficients**

		Chi-square	df	Sig.
Step 1	Step	18.622	5	.002
	Block	18.622	5	.002
	Model	18.622	5	.002

Table 3 **Model Summary**

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	66.685[a]	.208	.317

Table 4

Classification Table

Observed		Predicted Treatment Completion Status: Dropped Out	Completed	Percentage Correct
Treatment Completion Status	.00	7	11	38.9
	1.00	3	59	95.2
Overall Percentage				82.5

Table 5

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Counseling Alliance Subscale	-.051	.035	2.194	1	.139	.950	.888	1.017
Education	1.381	.646	4.572	1	.033	3.981	1.122	14.122
Type of Exposure to Trauma	-.826	.637	1.679	1	.195	.438	.126	1.527
Perceived Social Support Scale	.029	.020	2.055	1	.152	1.029	.990	1.070
Racial Identity	.038	1.125	.001	1	.973	1.039	.114	9.425
Constant	.336	1.761	.036	1	.849	1.400		

Discussion

This study was developed to inform clinical practice on the relationship between therapeutic alliance and associated factors, and treatment completion status for those attending psychotherapeutic treatment for PTSD. As discussed previously, patient dropout has been an oft-ignored factor in studies aimed at determining what constitutes successful PTSD treatment. This study supplements that set of knowledge and provides information on factors that contribute to treatment completion status.

Therapeutic Alliance

Therapeutic alliance was hypothesized to be a particularly significant predictor of dropout in treatment for PTSD, perhaps even more so than in treatment for other disorders because of the emotionally laden content described when disclosing traumatic experiences. Consistent with previous work on therapeutic alliance and treatment completion (see Horvath, Del Re, Flückiger, & Symonds, 2011), therapeutic alliance contributed to identifying treatment completion status in the current model, though it was not an independently significant predictor within the model.

While therapeutic alliance is considered a pan-theoretical construct, perhaps therapeutic alliance serves different roles in different types of treatment for PTSD, for example, manualized treatment versus non-manualized treatments (Capaldi et al., 2010). Evidence of this was brought to fore in a study of two types of treatment for PTSD (i.e., PE and client-centered therapy), whereby therapeutic alliance was more predictive of client outcomes for those treated with PE than those treated with the alternative. That study, however, did not include participants who prematurely dropped out of the study. Further investigation would therefore be required to determine whether the same principle applies in predicting treatment completion status.

Type of Trauma Exposure

Surprisingly, and not well-studied elsewhere, direct exposure to trauma was found to be positively correlated with treatment completion, though it was not independently significant in predicting treatment completion status. The sole reason for its inclusion in this study was not due to support from prior research, per se, but rather because it is a criterion for diagnosing PTSD. Specifically, to receive the diagnosis, one must be exposed to the trauma either from: 1) directly experiencing the traumatic event, 2) witnessing, in person, the event(s) as it occurred to others,

3) learning that the traumatic event(s) occurred to a close family member or close friend, or 4) Experiencing repeated or extreme exposure to aversive details of the traumatic event(s) (e.g., first responders collecting human remains). As mentioned previously, the latter three sub-criterion were collapsed and recoded as indirect exposure to a traumatic event; and, the first was recoded alone as direct exposure to a traumatic event. With this being a new construct in research on treatment completion, no cohesive theories have been developed to explain this phenomenon.

Research on allostatic overload may be one branch of research that can facilitate an eventual explanation for the relationship between indirect exposure to trauma and treatment dropout. Allostasis is the adaptive physiological process the body undergoes when preparing for and enduring an acute stressor (McEwen, 2005). For example, the body excretes cortisol and adrenalin to heighten cognitive and physical readiness for action. For those who are repeatedly exposed to acute stressors, cortisol has been found to degrade the body at the cellular level over time. This degradation has been attributed to problems such as decreased cognitive capacities, decreased ability to cope with stress, and feelings of hopelessness, all of which may affect an individual's ability and motivation to remain engaged in therapy (Can et al., 2020). This has implications for the finding that indirect exposure to traumatic stress predicts treatment dropout. That is, people who are diagnosed with PTSD caused by indirect exposure to the traumatic event are most commonly people like first responder's who experience repeated exposure to numerous traumatic events over the course of months and years (Finklestein et al., 2015). It may therefore be the case that indirectly exposed individuals are less likely to complete treatment because their cognitive, emotional, and physical capacities may be diminished from cortisol excess. In this

way, it may be that this finding would be better explained by frequency of exposure to traumatic events rather than whether the exposure was direct or indirect, per se.

Education

Education was found to correlate with treatment completion status, and it independently contributed to the significance of the current model. Education along with other demographic variables have long been studied by psychologist researchers. Commonly, education has a multicollinear relationship with income or socioeconomic status (Darin-Mattsson, Fors, & Kåreholt, 2017) and is believed to contribute to treatment dropout when the person has insufficient means to complete treatment (Haan, Boon, Vermeiren, & Jong, 2015; López, Shealy, & Rheingold, 2014). Interestingly, income was not correlated in this study and therefore does not explain the predictive relationship of education completion status to the dependent variable. One reason education may be correlated with treatment completion status is that most empirically supported treatments for PTSD require homework (e.g., PE, CBT, CPT, and EMDR) whereby participants are asked to document past and current experiences related to their traumatic stressor. Those without advanced studies may either be disinclined or at a disadvantage when attempting to complete such work—either of which may contribute toward a propensity to drop out of treatment according to one meta-analysis conducted on the topic (Karyotaki et al., 2015).

Black or African American Racial Identity

Black or African American racial identity was previously found to be a predictor of dropout in a meta-analysis of psychotherapeutic treatments across disorders (Wierzbicki & Pekarik, 1993). Likewise, Black or African American racial identity was found to predict dropout in the current study. As with education, Black and African American racial identities are commonly correlated with lower socioeconomic status. As mentioned previously, lower

socioeconomic status is also commonly associated with an inability to access psychotherapeutic services (Haan, Boon, Vermeiren, & Jong, 2015; Wierzbick & Pekarik, 1993). However, socioeconomic status was not found to explain the relationship between Black or African American racial identity and a higher likelihood of dropout in the current study.

The more probable explanation for the predictive relationship in the current study is that common EBPs for PTSD may be less effective treatments for use with Black- and African American-identified clients due to cultural discrepancies. These findings highlight the importance of applying culturally sensitive treatments to underrepresented individuals, particularly individuals who are Black- or African American-identified. Evidence suggests dropout rates for Black or African American clients is reduced when therapy is non-directive (Pedersen, Draguns, Lonner, & Trimble, 2002) and facilitates resilience through Black-identity development (Sue & Sue, 2012). Therapist acknowledgment of the ways in which race plays a role in the client's problems has also been shown to reduce dropout rates (Want, Parham, Baker, & Sherman, 2004). Similar findings have been found in research of the supervisory relationship (Gatmon, Jackson, Koshkarian, Martos-Perry, et al., 2001; Inman, 2006). Specifically, it has been found that intentional and collaborative discussions about the effects of race and racial differences between the supervisor and supervisee lead to an enriched working alliance and improved reports of satisfaction with supervision from the supervisee.

Perceived Social Support

As mentioned previously, perceived social support was found to correlate with the predictor variable, and it contributed to the significance of the current model, but it was not an independently significant predictor of treatment dropout in this study. Zilcha-Mano's (2017) recent work on therapeutic alliance may facilitate insight into this finding. Zilcha-Mano's

research effectively separates therapeutic alliance into two constructs which consist of a trait-based attachment style and state-based attachment quality. In essence, it is believed that those with a reliable trait-based attachment style are more likely to report greater levels of perceived social support and more easily adapt to the therapist's treatment styles, allowing for treatment completion. Those with a problematic trait-based attachment styles may benefit from a treatment which focuses on developing healthy attachment within the context of the therapeutic relationship. Ultimately, a healthy state-based attachment within the therapeutic milieu is believed to lend itself to healthier trait-based attachment style for the client over time. Still, more work needs to be done to clarify such relationships.

Constructs of Note, Not Included

In total, 22 researched variables, including demographics, were considered for inclusion in the current model. Either due to differences in study design, definitions of constructs, sample makeup, or lack of power, the following constructs were of interest due to prior research support, but were not included in the current model due to violation of assumptions associated with logistic regressions. Of note, comorbid depression and comorbid alcohol abuse diagnoses have shown variable support in past research but neither was correlated with the dependent variable in this study and were, thus, not included in the model. Also, while age was found to be correlated with treatment completion status, the construct violated assumptions of linearity with respect to its relationship to the dependent variable, and was therefore also excluded from the model.

Implications

The results of this study provide a valuable set of knowledge to clinicians providing treatment to those affected with PTSD. First, this study provided further support that the quality of the therapeutic alliance plays a role in predicting treatment completion status. Intuitively, it is

easy to understand why it would be important for psychotherapy-goers to disclose their most distressing issues to someone they experience as motivated, caring, easy to talk with, and understanding of their problems, all of which were independently correlated with treatment completion in the current study. Of note, the one therapeutic alliance question not correlated with the dependent variable was, "how professionally knowledgeable do you think your therapist was?". This finding, however, is in contrast to other studies which suggest that perceived therapist credibility is important for clients when implicitly determining level of self-disclosure to therapists (Carlson, Sexton, Chung, & Janssen, 2014). Clinical training programs may provide further benefit to their trainees by assessing their trainees' ability to provide a supportive presence to their clients just as they would assess their trainees' abilities to apply other clinical skills (Boswell, Kraus, Miller, & Lambert, 2015). For clinicians who find themselves less interpersonally effective due to life circumstances, this research may also affirm the need for a clinician to take a professional hiatus until such time as the clinician's self-care needs are met or their environment has otherwise stabilized (Figley, 2002).

Second, this study supports other research that has suggested that mainstream treatments for PTSD may be less frequently beneficial to Black and African American therapy-goers than for some other populations. Unfortunately, there were statistically insufficient numbers of Indigenous American, Asian American, and Hispanic and Latinx American participants to draw any conclusions for these populations. As mentioned previously, existing research suggests that relatively less directive treatments that focus on racial identity development and the effects of racial identity on health can be more effective types of interventions for Black and African American clients (Pedersen, Draguns, Lonner, & Trimble, 2002; Sue & Sue, 2012).

Also, although not identified as frequently in quantitative research, qualitative literature suggests that it may be beneficial for some Black, African American and Indigenous individuals to meet with similarly identified therapists for the purposes of cultivating a sort of empathic attunement between two individuals who can connect over mutually salient types of suffering (Wilderson III, 2020). Community type counseling centers may choose to incorporate mechanisms at intake whereby clients are empowered to choose a therapist based on similar racial identities. This finding also causes concern that manualized treatments may need to be adapted or done away with to effectively work with Black and African American populations. While manualized treatments have repeatedly been proven to be effective with diverse populations, more research could be conducted to facilitate understanding as to its efficacy with each specific population.

Third, assuming that perceived social support covaries with capacities for healthy social interaction, as discussed previously, one implication for therapy would be to actively monitor the therapeutic alliance. The goal would be to facilitate the client's ability to generate positive patterns of relating over time which is believed to facilitate treatment completion, among other benefits. This intervention could be integrated into existing evidence based treatments for PTSD.

Fourth, the finding that PTSD diagnosis from indirect exposure to traumatic events correlates with treatment dropout is a novel discovery that deserves further investigation. One avenue of inquiry regarding this finding would be to discern whether the relationship between indirect exposure and treatment dropout is mediated by another variable. For example, this author has submitted that greater levels of chronic physiological distress—which is more common among those diagnosed with PTSD from indirect exposure to trauma (APA, 2013)—

may better explain the relationship between trauma exposure type and treatment completion status. Future studies may be developed that can clarify the nature of such relationships.

Fifth, with education being a predictor of treatment completion status for therapy-goers affected with PTSD, this study offers valuable information to clinicians on the importance of identifying and tending to the accessibility needs and preferences of each client. Clinicians have an opportunity to increase client retention by considering an individual's post-secondary education completion status when determining the best-suited treatment approach for the client (Karyotaki et al., 2015). To that end, clinics should ensure that education level is a demographic gathered from incoming patients as a part of intake procedures. Alternatively, clients may be given treatment options at the onset of therapy and be encouraged to select a modality that is consistent with their preferences (Waller & Gilbody, 2009). For example, therapy clients with less education may find more success from a treatment modality that requires little-to-no written work (Luyten et al., 2015). Researchers could help generate viable alternatives to written homework by testing various creative communication activities that may be more inviting to individuals less accustomed to or prepared for the prevailing written homework activities offered in mainstream PTSD treatments.

Strengths, Limitations, and Future Directions

While several treatments have been consistently proven to be effective in reducing symptoms of PTSD, considerable dropout rates hinder the opportunity for healing in many who present for psychotherapy. This is of concern because of the physical, emotional, relational, occupational, financial, and potentially life-threatening consequences that untreated PTSD imposes on affected individuals. This study set out to understand potential barriers to treatment completion for those engaged in psychotherapy for PTSD. Utilizing demographics, information

about participant trauma, participant perceptions of perceived social support, and self-reports of therapeutic alliance, this study offers new information on the factors that influence treatment completion status for individuals initiating psychotherapeutic treatment for PTSD.

Strengths. The findings of this study offer a cohesive set of information for clinicians to consider when providing treatment to individuals affected with PTSD, including one apparently novel finding. To this author's knowledge, this was the first study to provide evidence suggesting that the type of exposure to the traumatic event (i.e., direct versus indirect) may predict psychotherapeutic treatment completion status for individuals diagnosed with PTSD. Anecdotally, type of exposure is an uncommonly included variable when studying PTSD treatment. The direction of the relationship between exposure type and treatment completion status was of particular interest. Namely, those who were indirectly exposed to trauma were more likely to drop out of treatment. Elsewhere, research has suggested that individuals who are exposed indirectly to a traumatic event are about a sixth as likely to develop PTSD as those who were directly exposed to the traumatic event (Hansen et al, 2017). So, although an individual indirectly exposed to a traumatic event appears to be less likely to be diagnosed with PTSD, they may experience a more pervasive and prolonged course of PTSD due to an increased likelihood of treatment dropout.

Limitations. One potential limitation of this study is that retrospective reports from clients were used to collect data regarding the therapeutic alliance. While comparatively less research has been conducted using this method, it has received some support (Constantine, 2007; Owen et al., 2011). Meanwhile, current research is split into several camps on what constitutes best practices for collecting and using therapeutic alliance data as a predictor for therapy outcomes. The current author, however, puts forth that a cognitively consolidated account of the

therapeutic alliance may be as useful in understanding the therapeutic alliance as other mainstream methods. An important consideration is that each of the aforementioned collection strategies has been proven to predict a variety of therapy outcomes.

A second potential limitation is that data were collected over the Internet from unverified sources. While some have rightly argued that the identities and data of participants cannot be positively verified, others have found that crowd-sourced data is as reliable as data collected by more traditional methods (Buhrmester, Kwang, & Gosling, 2011). To that end, best practices for crowd-sourcing data (King, O'Rourke, & Delongis, 2014) were utilized to help manage the quality of the collected data (e.g., only Master Workers were permitted to take the study).

Third, because all data was collected after treatment termination, there was no way to compare pre- versus post-treatment data. In particular, it can be useful to monitor the degree of improvement of PTSD symptomology over the course of treatment, but the design of this study did not allow for that comparison. Still, treatment completion, as defined in this study, was correlated with patient reports of successful treatment completion, and was associated with lower post-treatment ratings of PTSD symptomology.

Fourth, the relatively small sample size resulted in a noisy data set. A much larger sample size may have resulted in the inclusion of different predictors in the model, and/or it may have caused changes in significance among the included predictors. For example, though the composition of racial identities was relatively representative of the U.S. population, there were statistically insufficient numbers of participants with Alaska Native or Native American, Asian American, Hawaiian/Pacific Islander, and Hispanic/Latino/a/x racial and ethnic identities in this study to draw conclusions specific to these populations. A larger sample size would likely help

clarify whether these racial and ethnic identities interact with the other predictors to project treatment completion status in psychotherapy for PTSD.

Future Directions. When comparing data from the current study (see Table 3; Cox and Snell R squared = 7.9%; Nagelkerke R squared = 11.7%) to a large meta-analysis (7.5 %; Horvath, Del Re, Flückiger, & Symonds, 2011), therapeutic alliance was about as predictive, or slightly more predictive of treatment completion in psychotherapy for PTSD than for psychotherapy for all treated DSM-5 disorders. While there is insufficient evidence to make such an assertion given the current data, it would potentially be beneficial for therapists to better understand the degree of importance of client reports of therapeutic alliance when treating individuals diagnosed with PTSD. Findings from this study raise concern for the possibility that therapeutic alliance may be more important when treating some disorders (i.e., PTSD) than others, thus warranting further study.

While the current model showed good sensitivity in predicting membership in the treatment completion category (95%), interestingly, it was less robust at identifying non-completers (40%). Future research should focus on identifying novel factors that predict treatment dropout. Research on human motivation, PTSD symptomology, attachment, or other therapist-client dyad factors may provide useful clues. One novel predictor that warrants further study is type of trauma exposure (i.e., direct exposure versus indirect exposure). Research on this construct is both, sparse and mixed (Molano, Harker, & Cristancho, 2018; Kulkarni, Graham-Bermann, Rauch, & Seng, 2011). While indirect exposure to traumatic event(s) was positively correlated with treatment dropout, it remains unclear whether exposure type exerts a direct or indirect influence on treatment completion status. Future studies could be developed to parse out

trauma-exposure-type multicovariates, such as physiological measures of stress activation of the participant (McEwen, 2005) and chronicity of exposure (Can et al., 2020).

Conclusion

This study utilized a logistic regression to identify predictors of treatment completion status in individuals who attended psychotherapy for PTSD. As predicted, positive patient reports of the therapeutic alliance were positively correlated with treatment completion. Contrary to theoretical expectation, participant reports of the therapeutic alliance were not independently significant in predicting the same. Four additional predictors were identified and were included in the prediction model. Black or African American racial identity and indirect exposure to the traumatic event were positively correlated with treatment dropout. High levels of perceived social support and post-secondary education completion had a negative relationship with treatment dropout. Post-secondary education level was the only variable that was independently significant in predicting treatment completion status. Together, these findings provide support for the following clinical best practices: monitor and attend to therapeutic alliance while treating PTSD, and adapt EBPs to patient racial and ethnic identity and education completion level. Though the following two constructs were found to be significantly correlated, more research needs to be conducted to understand the relationship between direct and indirect trauma exposure types and treatment completion status.

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APPENDIX A

Counseling Alliance Subscale

1. How caring do you feel your counselor was toward you?

   VERY CARING 1 2 3 4 5 6 7 NOT CARING

2. How well do you feel your counselor understood you?

   VERY WELL 1 2 3 4 5 6 7 NOT WELL

3. How trusting did you feel toward your counselor?

   VERY TRUSTING 1 2 3 4 5 6 7 NOT TRUSTING

4. How easy was it to talk to your counselor?

   VERY EASY 1 2 3 4 5 6 7 NOT EASY

5. How professionally knowledgeable do you feel your counselor was?

   KNEW A LOT 1 2 3 4 5 6 7 KNEW LITTLE

6. How motivated or committed do you feel your counselor was to help you?

   VERY MUCH 1 2 3 4 5 6 7 NOT AT ALL

7. Overall, how satisfied were you with your counselor?

   SATISFIED 1 2 3 4 5 6 7 DISSATISFIED

APPENDIX B

Demographics

1. Race or Ethnicity:
    a. Alaska Native/Native American
    b. Asian American
    c. Black/African American
    d. Hawaiian/Pacific Islander
    e. Hispanic/Latino/a/x
    f. White/European American
    g. _____
2. Age:
    a. _____ years
3. Gender:
    a. Man
    b. Transman
    c. Transwoman
    d. Queer/Gender non-conforming
    e. Woman
    f. _____
4. Sex at Birth:
    a. Female
    b. Male
    c. _____
5. Sexual Orientation
    a. Asexual
    b. Bisexual
    c. Gay
    d. Lesbian
    e. Queer
    f. Straight/Heterosexual
    g. _____
6. Relationship Status
    a. Dating, not married
    b. Divorced
    c. Married
    d. Married, separated
    e. Single
    f. Widowed
7. Education
    a. Did not finish high school
    b. High school diploma or GED
    c. Some college
    d. Technical or vocational degree or license
    e. Associate degree (2-year degree)

   f. Bachelor's degree (4-year degree)
   g. Graduate degree (Masters, PhD, MD, etc.)
   h. _____
8. Household Income:
   a. $0–$24,999
   b. $25,000–$49,999
   c. $50,000–$74,999
   d. $75,000–$99,999
   e. $100,000–$149,999
   f. $150,000 or more

APPENDIX C

Trauma Therapy And Trauma Experience Information

1. Number of Traumatic Experiences:
    a. 0
    b. 1
    c. 2
    d. 3
    e. 4
    f. 5+
2. Types of Traumatic Experiences (check the one that is most problematic)
    a. Exposure to actual or threatened death
    b. Serious injury
    c. Sexual violence
    d. _____
3. How were you exposed to the most problematic traumatic event?
    a. Directly experienced the traumatic event
    b. Witnessed, in person, the event as it occurred to other(s)
    c. Learned that the traumatic event occurred to a close family member or close friend
    d. Experienced repeated or extreme exposure to aversive details of a traumatic event
4. Causes of Trauma (check the one that is most problematic)
    a. Natural Disaster (hurricane, tornado)
    b. Medical trauma (heart attack, major illness)
    c. Serious accident (motor vehicle, hunting, etc.)
    d. War trauma or torture
    e. Sexual assault by a stranger
    f. Sexual assault by an acquaintance, relative, or partner
    g. Physical assault by a stranger
    h. Physical assault by an acquaintance, relative, or partner
    i. Witnessing a traumatic event
    j. Learning of a traumatic event that occurred to a close friend or relative
    k. Repeated exposure or extreme exposure to details of a traumatic event
    l. _____
5. Other Diagnoses Treated
    a. Depression
    b. Alcohol abuse
    c. _____
6. Was your counseling court-ordered?
    a. Yes
    b. No
7. In what type of setting did you attend treatment?
    a. Community, group, or private practice setting
    b. Veteran Affairs Medical Center
    c. Women's' shelter or domestic violence service center

   d. University Counseling Center
   e. Other
8. What type of treatment did your counselor use in therapy?
   a. Eye movement desensitization and reprocessing (EMDR)
   b. Prolonged Exposure (PE)
   c. Cognitive Processing Therapy (CPT)
   d. Psychoanalytic or Psychodynamic
   e. Humanist Therapy
   f. Unknown
   g. Other: _____
9. Did you and your counselor agree to a minimum number of session at the beginning of treatment? If yes, what was the minimum number of sessions you agreed to attend?
   a. We did not agree to a minimum number of sessions
   b. At least 1–3 sessions
   c. At least 4–6 sessions
   d. At least 7–11 session
   e. At least 12 or more sessions
10. How many sessions did you attend?
   a. 1
   b. 2
   c. 3
   d. 4
   e. 5
   f. 6
   g. 7
   h. 8
   i. 9
   j. 10
   k. 11
   l. 12+
11. Was treatment successfully completed prior to termination?
   a. Yes
   b. No
12. Who decided to terminate therapy?
   a. I decided to terminate.
   b. My counselor/psychologist decided to terminate.
   c. We both agreed to terminate
13. What was the reason for termination?
   a. _____
14. How helpful or harmful was therapy in reducing PTSD symptoms?
   a. Very harmful
   b. Somewhat harmful
   c. Neither harmful nor helpful
   d. Somewhat helpful
   e. Very helpful

Appendix D
PTSD Checklist-Civilian Form

Instructions to patient: "Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. Please read each one carefully, and then select the response to indicate how much you have been bothered by that problem IN THE PAST MONTH." Please fill in ONE option only for each question.

1. Repeated, disturbing, memories, thoughts, or images of a stressful experience from the past?

(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

2. Repeated, disturbing dreams of a stressful experience from the past?

(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

3. Suddenly acting or feeling as if a stressful experience were happening again (as if you were reliving it)?

(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

4. Feeling very upset when something reminded you of a stressful experience from the past?

(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

5. Having physical reactions (e.g., heart pounding, trouble breathing, or sweating) when something reminded you of a stressful experience from the past?

(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

6. Avoid thinking about or talking about a stressful experience from the past or avoid having feelings related to it?

(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

7. Avoid activities or situations because they remind you of a stressful experience from the past?

(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

8. Trouble remembering important parts of a stressful experience from the past?

(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

9. Loss of interest in things you used to enjoy?

(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

10. Feeling distant or cut off from other people?

(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

11. Feeling emotionally numb or being unable to have loving feelings for those close to you?

(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

12. Feeling as if your future will somehow be cut short?
(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

13. Trouble falling or staying asleep?
(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

14. Feeling irritable or having angry outbursts?
(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

15. Having difficulty concentrating?
(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

16. Being “super alert” or watchful on guard?
(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

17. Feeling jumpy or easily startled?
(1) Not at all (2) A little bit (3) Moderately (4) Quite a bit (5) Extremely

APPENDIX E
Multidimensional Scale of Perceived Social Support

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you Very Strongly Disagree
Circle the "2" if you Strongly Disagree
Circle the "3" if you Mildly Disagree
Circle the "4" if you are Neutral
Circle the "5" if you Mildly Agree
Circle the "6" if you Strongly Agree
Circle the "7" if you Very Strongly Agree

1. There is a special person who is around when I am in need.
   1 2 3 4 5 6 7
2. There is a special person with whom I can share my joys and sorrows.
   1 2 3 4 5 6 7
3. My family really tries to help me.
   1 2 3 4 5 6 7
4. I get the emotional help and support I need from my family.
   1 2 3 4 5 6 7
5. I have a special person who is a real source of comfort to me.
   1 2 3 4 5 6 7
6. My friends really try to help me.
   1 2 3 4 5 6 7
7. I can count on my friends when things go wrong.
   1 2 3 4 5 6 7
8. I can talk about my problems with my family.
   1 2 3 4 5 6 7
9. I have friends with whom I can share my joys and sorrows.
   1 2 3 4 5 6 7
10. There is a special person in my life who cares about my feelings.
    1 2 3 4 5 6 7
11. My family is willing to help me make decisions.
    1 2 3 4 5 6 7
12. I can talk about my problems with my friends.
    1 2 3 4 5 6 7

APPENDIX F

Consent to Participate in Research

Would you like to be involved in research at the University of Oklahoma?

I am Corby Thompson from the Counseling Psychology Department and I invite you to participate in my research project entitled “Does the Quality of Therapeutic Alliance Predict
Treatment Completion in the Treatment of Posttraumatic Stress?”. This research is being conducted online at Qualtrics.com. You were selected as a possible participant because you are an adult, whose native language is English, and have been received psychotherapeutic treatment of posttraumatic stress disorder (PTSD) within the past six months. You must be at least 18 years of age to participate in this study.
Please read this document and contact me to ask any questions that you may have BEFORE agreeing to take part in this research.

What is the purpose of this research? The purpose of this research is to explore the extent to which the quality of therapeutic relationship predicts treatment dropout for individuals affected with (PTSD).

How many participants will be in this research? About 50–100 people will take part in this research.

What will I be asked to do? If you agree to be in this research, you will answer several questions about yourself and your treatment for PTSD.

How long will this take? Your participation will take about 20–30 minutes to complete four (4) multiple-choice and fill-in-the blank surveys.

What are the risks and/or benefits if I participate? There is a slight chance that some individuals may become emotionally distressed during parts of the survey. Any distress that is experienced should be minor and is not likely to cause any long-term risks above and beyond the risks associated with posttraumatic stress. Potential benefits include improved self-awareness.

Will I be compensated for participating? You will be reimbursed $5 USD for your time and participation in this research upon verification of completion of all items on each of the instruments.

Who will see my information? In research reports, there will be no information that will make it possible to identify you. Research records will be stored securely and only approved researchers and the faculty advisor will have access to the records.

You have the right to access the research data that has been collected about you as a part of this research. However, you may not have access to this information until the entire research has completely finished and you consent to this temporary restriction.

Do I have to participate? No. If you do not participate, you will not be penalized or lose benefits or services unrelated to the research. If you decide to participate, you don’t have to answer any question and can stop participating at any time.

Who do I contact with questions, concerns or complaints? If you have questions, concerns or complaints about the research or have experienced a research-related injury, contact me at (405)325-2914, or corby@ou.edu. Alternatively, you may contact my faculty advisor, Dr. Terry Pace at (405)325-2914, or tpace@ou.edu.

You will be given a copy of this document for your records. By providing information to the researcher(s), I am agreeing to participate in this research.